

REMARKS

The Examiner's action dated May 10, 2004, has been received, and its contents carefully noted.

The rejection presented in section 4 of the Action is traversed for the reason that the limitation in question is fully supported by the original Specification.

The Specification unambiguously discloses that, according to the present invention, a node can be operated in a repeating mode, in which data is repeated in a selected direction between line couplers. It is believed that the rejection does not take into account the understanding of those skilled in the data communication art of the significance of the terms "repeated" and "repeater". What is understood in this art is that a repeater is a device that takes a signal stream from an input and moves it directly to the output with only physical layer handling, e.g., regeneration, clock reconstruction, etc. The present Application clearly discloses that, in the repeating mode, the line couplers are physically connected together in series to provide a serial data stream. In the arrangements disclosed in the present Application, that which occurs between line couplers when a node is in the repeating mode involves a transfer of serial data, with no opportunity to effect any format change.

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Furthermore, attached hereto is a copy of an explanation of the term "repeater", which appears on the Internet. At the top of page 2 of this document there is provided a definition that relates specifically to digital communication systems and explains that a repeater simply receives a digital signal and regenerates the signal along the next leg of the medium. It is further pointed out that repeaters remove unwanted noise in an incoming signal and then restore the digital signal.

It is believed to be abundantly clear from these definitions that repeating does not involve any format change.

Thus, the phrase that has been added to the claims "without format change" is, in effect, nothing more than a further clarification of the recognized meaning of "repeated" in the field to which this invention relates. Stated in other terms, in the field to which this invention relates, it is inherent that when a signal is "repeated" there is no format change.

For the above reasons, it is submitted that the phrase in question is, in fact, fully supported by the Specification.

The rejections presented in sections 7 and 9 of the action are traversed for the reason that they are based on **applicant's own patent**, which thus discloses applicant's own

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invention, and which issued **after** the filing date of the present application. Therefore, this patent cannot be considered to be prior art under any section of 35 U.S.C. 102 and these rejections must be withdrawn. Similarly, the rejections presented in sections 10 and 11 of the action cannot be based on that patent.

The rejection of claims 18, 19, 21, 25, 26 and 28 as anticipated by Ampulski, presented in section 8 of the action is also traversed.

Ampulski describes a token-ring network. As described in Ampulski, such a network is clearly unidirectional and not half-duplex, since the data flow is always in the same direction. In other words, data can flow through each node in only one direction.

Thus, claim 18 distinguishes patentably over this reference, at least by the recitations that each of communication links is operative to communicate in a half-duplex mode, and by the recitations that the control means are operative to create two repeating modes, involving the repeating of data in each of two mutually opposite directions. The circuits disclosed by Ampulski clearly are neither intended to have, nor capable of having, such operating capabilities.

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The rejection presented in section 10 of the Action is traversed for similar reasons. Claims 22 and 23 should be considered allowable at least in view of their dependency from claim 18. Claim 29 distinguishes over any combination of the teachings of the two applied references, at least by its recitation of a node that includes two line couplers and a unit that switches the node between two states each allowing data to be repeated in a respectively opposite direction. As already noted above, Ampulski is capable of transmitting data only in one direction and the nodes disclosed in this reference did not include any type of control, logic, and processing unit.

The system disclosed by Pesetski differs, of course, fundamentally from that of Ampulski. Whereas Ampulski discloses a ring network, Pesetski is concerned with a linear network. Whereas Ampulski conducts signals only in one direction over the ring network, Pesetski discloses a system in which signals can be carried simultaneously in both directions, i.e. a full duplex system. Pesetski does not include any means for limiting transmission in a node to only one direction.

For the above reasons, it is submitted that one skilled in the art would have no reason to combine the teachings of these references in any particular manner, and if

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any combination were made, the result would not be a system having a control, logic, and processing unit with the capabilities defined in claim 29.

The rejection of claims 18-23, 25, 26, and 28-33, presented in section 11 of the action, is also respectfully traversed. The nodes disclosed in the primary reference, Blatter, do not include means that are capable of providing a repeating mode, which is the mode defined in these claims. In the component shown in figures 2 and 3 of that reference, an incoming serial data stream is decoded and converted to parallel form before being placed on a data bus 25. If this data is to be conveyed to a subsequent node, it must be placed back in serial form before being transmitted on. This fact is clear from the statements at page 3, line 19, and page 3, line 35 to column 4, line 1, that the transmitter 50R is configured to serialize the data placed on data bus 25 by receiver 20L.

Such a serial-parallel-serial conversion does not represent a **repeating** function. In the art to which this invention relates, as already explained above, repeating simply involves decoding data in a receiving element and then recoding the data in a transmitting element before sending it on to further components. The purpose of this function is to compensate for any degradation that the data may have experienced during transmission from a preceding component.

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There is no change from serial to parallel, and more generally, no change in the data format.

As regards the statement at page 5, line 18, of Blatter, it is clear from the reference specification as a whole that "unchanged" means that the output signal has been restored to the form of the input signal. However, between the input and the output, the format of the signal is clearly changed.

The repeating feature of the invention is further defined in claim 28, which includes a positive recitation of a repeater.

It will be noted, in this connection, that in the structures disclosed in the present application there is no parallel bus between a receiver and a line driver, such as elements 44b and 44a in figure 5b of the application drawing.

One skilled in the art would have no reason to combine the teachings of Blatter and Pesatski in any particular manner. Blatter discloses a communication system composed of nodes that are controlled to have a number of distinct operating states. Each node can perform a transmitting, receiving, or pass-through function. Pesatski simply discloses a system composed of repeating nodes that connect a central office to a customer. Since the two systems perform entirely different functions in different

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environments, there is no basis for asserting that one skilled in the art would have any reason to combine their teachings.

Thus, claims 18 and 29 distinguish over Blatter by their recitation that the operating modes produced by the control means are repeating modes in which only data received at one of the line couplers is repeated without format change to the other one of the line couplers.

In addition, the rejection of claims 32 and 33 is traversed for the reason that these claims depend from 29 and should be considered allowable along therewith.

In order to further define the contributions of the invention over the prior art, new claims 34 and 35 have been added. Claim 34 depends from claim 18 and specifies that each of the communication links connects only two of the nodes and consists of only a pair of conductors, while claim 35 depends from claim 29 and specifies that each of the line couplers is connected, outside of the node, only to a respective communication link and each of the communication links consists of only a pair of conductors. Support for the recitation that each of the communication links consists of only a pair of conductors will be found in the Specification, at page 10, lines 19-22.

These recitations represent a further clear distinction over Blatter, in which the communication links

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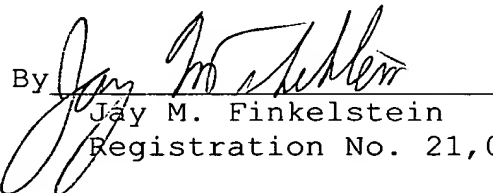
between two nodes consist of a clock signal line and a data signal line. Of course, it is obligatory that each "line" consist of two conductors, or at least a total of three conductors if a common return wire is employed.

In view of the foregoing, it is requested that all of the rejection of record be reconsidered and withdrawn, that the pending claims be allowed and that the application be found in allowable condition.

If the above amendment should not now place the application in condition for allowance, the Examiner is invited to call undersigned counsel to resolve any remaining issues.

Respectfully submitted,

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